

CLAIM AMENDMENTS

Please amend the claims as described below. In accordance with 37 CFR §1.121, a complete listing of all claims in the application is provided below. The status of each claim is indicated in the parenthetical expression adjacent to the corresponding claim number.

Claims 1-26 (**Canceled**).

1 **27. (Currently Amended)** A resonator comprising:
2 a spring-mass mechanism, having an effective mechanical stiffness and an effective
3 mechanical mass defined by a geometry;
4 wherein the geometry and the effective mechanical mass of the spring-mass
5 mechanism are simultaneously defined by application of a fabrication process to a
6 constituent material; and
7 wherein the geometry is defined such that variations in the effective mechanical
8 stiffness of the spring-mass mechanism are compensated by proportional changes in the
9 effective mechanical mass of the spring-mass mechanism whereby one or more variations
10 of the fabrication process to the constituent material results in little change to a ratio
11 defined by a change in the effective mechanical stiffness and a change in the effective
12 mechanical mass.

1 **28. (Previously Presented)** The resonator of claim 27 wherein the geometry of the
2 spring-mass mechanism comprises one or more voids formed in a length of the spring-
3 mass mechanism.

1 **29. (Previously Presented)** The resonator of claim 27 wherein the geometry of the
2 spring-mass mechanism comprises an outer edge having a plurality of indentations, the
3 plurality of indentations having the effect of increasing a surface area of the outer edge that
4 is exposed to the fabrication process.

1 **30. (Previously Presented)** The resonator of claim 27 wherein the spring-mass
2 mechanism includes at least one mass structure that is formed integral to the spring-mass
3 mechanism.

1 **31. (Previously Presented)** The resonator of claim 30 wherein at least one of the
2 mass structures comprises one or more voids formed in a body of the at least one mass
3 structure.

1 **32. (Previously Presented)** The resonator of claim 30 wherein at least one of the
2 mass structures comprises an outer edge having a plurality of indentations, the plurality of
3 indentations having the effect of increasing a surface area of the outer edge that is
4 exposed to the fabrication process.

1 **33. (Previously Presented)** The resonator of claim 32 wherein the at least one of
2 the mass structures further comprises one or more voids formed respectively in a body of
3 the at least one of the mass structure.

1 **34. (Previously Presented)** The resonator of claim 27 wherein the spring-mass
2 mechanism includes a plurality of mass structures that are formed integral to the spring-
3 mass mechanism.

1 **35. (Previously Presented)** The resonator of claim 34 wherein each of the plurality
2 of mass structures includes one or more voids formed in a body of the mass structure.

1 **36. (Previously Presented)** The resonator of claim 34 wherein each of the plurality
2 of mass structures includes an outer edge having a plurality of indentations, wherein the
3 plurality of indentations having the effect of increasing a surface area of the outer edge that
4 is exposed to the fabrication process.

1 **37. (Previously Presented)** The resonator of claim 36 wherein each of the plurality
2 of mass structures further includes one or more voids formed in a body of the mass
3 structure.

1 **38. (Previously Presented)** The resonator of claim 27 wherein the spring-mass
2 mechanism includes a plurality of spring structures that are formed integral to the spring-
3 mass mechanism.

1 **39. (Previously Presented)** The resonator of claim 38 wherein each of the plurality
2 of spring structures includes one or more voids formed in a body of the spring structure.

1 **40. (Previously Presented)** The resonator of claim 38 wherein each of the plurality
2 of spring structures includes an outer edge having a plurality of indentations, and wherein
3 the plurality of indentations having the effect of increasing a surface area of the outer edge
4 that is exposed to the fabrication process.

1 **41. (Previously Presented)** The resonator of claim 27 wherein the geometry of the
2 spring-mass mechanism comprises:
3 one or more voids formed in a length of the spring-mass mechanism; and
4 an outer edge having a plurality of indentations, the plurality of indentations having
5 the effect of increasing a surface area of the outer edge that is exposed to the fabrication
6 process.

1 **42. (Previously Presented)** The resonator of claim 41 wherein the spring-mass
2 mechanism includes at least one mass structure that is formed integral to the spring-mass
3 mechanism.

1 **43. (Previously Presented)** The resonator of claim 42 wherein at least one of the
2 mass structures comprises one or more voids formed in a body of the at least one mass
3 structure.

1 **44. (Previously Presented)** The resonator of claim 42 wherein at least one of the
2 mass structures comprises an outer edge having a plurality of indentations, the plurality of

3 indentations having the effect of increasing a surface area of the outer edge that is
4 exposed to the fabrication process.

1 **45. (Previously Presented)** The resonator of claim 44 wherein the at least one of
2 the mass structures further comprises one or more voids formed respectively in a body of
3 the at least one of the mass structure.